



PATENT
Attorney Docket No. 401559/M&CHK

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

RAYMOND WAI HANG CHU

Application No. 10/058,766

Filed: January 30, 2002

For: ELECTRICAL SWITCH ASSEMBLY

Art Unit: Unassigned

Examiner: Unassigned

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Prior to the examination of the above-identified patent application, please enter the following amendments and consider the following remarks.

IN THE CLAIMS:

Replace the indicated claims with:

1. (Amended) An electrical switch assembly for controlling operation of an electrical appliance, the switch comprising:

first and second electrical elements,

the first electrical element comprising an on/off switch for initially switching on an appliance,

the second electrical element comprising a pressure-sensitive variable resistor for adjusting operating condition of the appliance, the variable resistor comprising a first part having a resilient deformable and electrically conducting resistive surface and a second part having a surface including two contacts and a resistive element connecting one of the contacts to the other of the contacts, one of the first and second parts being moved to press against the other of the first and second parts such that respective surfaces of the first and second parts bear against one another, thereby causing the resistive surface to deform against the surface of the second part over an area of contact and causing electrical connection between the resistive surface and the resistive element, to provide a resultant resistance between the two contacts that declines as the area of contact increases, corresponding to pressure applied to the first and second parts, and

an operating mechanism operating the first and second electrical elements and incorporating manual operating means for initial movement to operate the on/off switch and subsequent movement, while the on/off switch is on, to change the resultant resistance of the variable resistor.

4. (Amended) The electrical switch assembly as claimed in claim 1, wherein the first part of the variable resistor comprises a portion of a resilient deformable and electrically conducting resistive material as the resistive surface.

6. (Amended) The electrical switch assembly as claimed in claim 1, wherein the first part of the variable resistor comprises a resilient deformable cup-shaped body including a base having an inner side on which the resistive surface is located.

7. (Amended) The electrical switch assembly as claimed in claim 6, wherein the cup-shaped body includes a substantially frusto-conical peripheral wall.

11. (Amended) The electrical switch assembly as claimed in claim 1, wherein the one of the first and second parts that is movable moves to press against the other of the first and second parts in a direction substantially perpendicular to the respective surfaces of the first and second parts.

12. (Amended) The electrical switch assembly as claimed in claim 1, wherein the first part of the variable resistor is movable and the second part is fixed.

13. (Amended) The electrical switch assembly as claimed in claim 12, wherein the second part includes a printed circuit board.

14. (Amended) The electrical switch assembly as claimed in claim 1, wherein the first and second electrical elements have relatively larger and smaller current ratings, respectively.

16. (Amended) The electrical switch assembly as claimed in claim 1, wherein the resistive surface and the resistive element are brought into electrical contact with each other when the respective surfaces of the first and second parts of the variable resistor bear against one another.

17. (Amended) The electrical switch assembly as claimed in claim 1, wherein the resistive surface and the two contacts are brought into electrical contact with each other when

the respective surfaces of the first and second parts of the variable resistor bear against one another.

18. (Amended) The electrical switch assembly as claimed in claim 17, wherein the surface of the second part of the variable resistor includes more than two contacts for electrical contact with the resistive surface, and a corresponding resistive element connecting adjacent contacts.

19. (Amended) The electrical switch assembly as claimed in claim 1, wherein the operating mechanism includes a spring resiliently biasing the manual operating means against operation of the first and second electrical elements.

20. (Amended) The electrical switch assembly as claimed in claim 1, wherein the manual operating means comprises third and fourth parts for operating the on/off switch and the variable resistor respectively, the third part having a shorter operative length than the fourth part

21. (Amended) The electrical switch assembly as claimed in claim 20, wherein the third and fourth operating parts are separate.

22. (Amended) The electrical switch assembly as claimed in claim 21, including a resiliently deformable sheet element covering the third and fourth operating parts for operation by pressing against the sheet element.

23. (Amended) The electrical switch assembly as claimed in claim 21, wherein one of the third and fourth operating parts has a portion engaging the other of the third and fourth operating part for moving the other of the third and fourth operating parts.

24. (Amended) The electrical switch assembly as claimed in claim 1, comprising two variable resistors, wherein the manual operating means comprises three separate members for operating the on/off switch and the two variable resistors, respectively.

25. (Amended) The electrical switch assembly as claimed in claim 24, wherein the member for operating the on/off switch is positioned between the members for operating the two variable resistors.

26. (Amended) The electrical switch assembly as claimed in claim 24, wherein the member for operating a first one of the variable resistors has a first portion engaging the member

member for a second of the variable resistors has a second portion engaging the first portion for simultaneous operation of the on/off switch.

27. (Amended) The electrical switch assembly as claimed in claim 26, including a resiliently deformable sheet means covering the two members for operating the variable resistors, said resiliently deformable sheet means having two regions covering the two members, respectively, for individual depression to operate the variable resistors.

28. (Amended) The electrical switch assembly as claimed in claim 27, wherein the sheet means comprises a single sheet including a portion between the two regions and a fixed member supporting the portion against depression.

29. (Amended) An electrical appliance incorporating the electrical switch assembly as claimed in claim 1, the appliance comprising a casing in which the switch assembly is located, an electrical device located in the casing, and an internal electronic control circuit for controlling operation of the electrical device, wherein the on/off switch is connected to the electrical device for switching on the electrical device, and the variable resistor is connected to the control circuit for adjusting an operating condition of the electrical device.

30. (Amended) The electrical appliance as claimed in claim 29, wherein the casing includes a resiliently deformable wall portion, adjacent the operating mechanism for operation through depression of the resiliently deformable wall portion.

32. (Amended) The electrical appliance as claimed in claim 29, wherein the casing is an elongate handle.

IN THE ABSTRACT:

Replace the Abstract with:

ABSTRACT OF DISCLOSURE

An electrical switch assembly for controlling an electrical appliance. The assembly includes first and second electrical elements. The first element is an on/off switch for initially switching on the appliance. The second element is a pressure-sensitive variable resistor for adjusting the operating condition of the appliance. The variable resistor includes a first part having a resilient deformable and electrically conducting resistive surface, and a second part